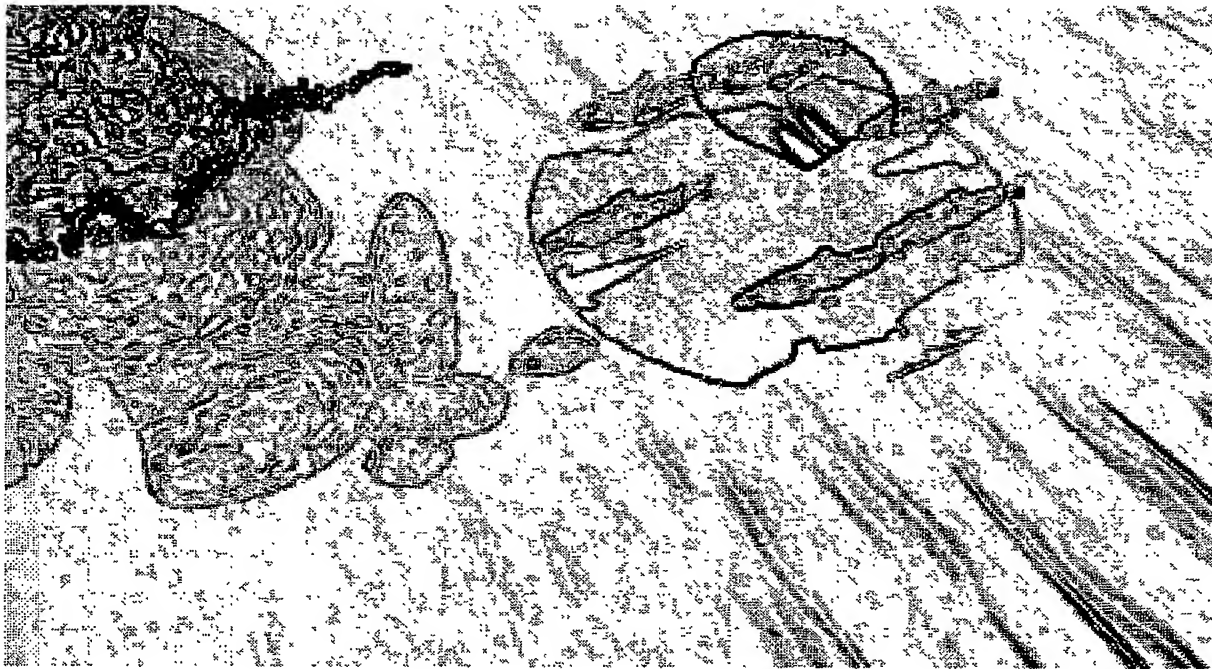


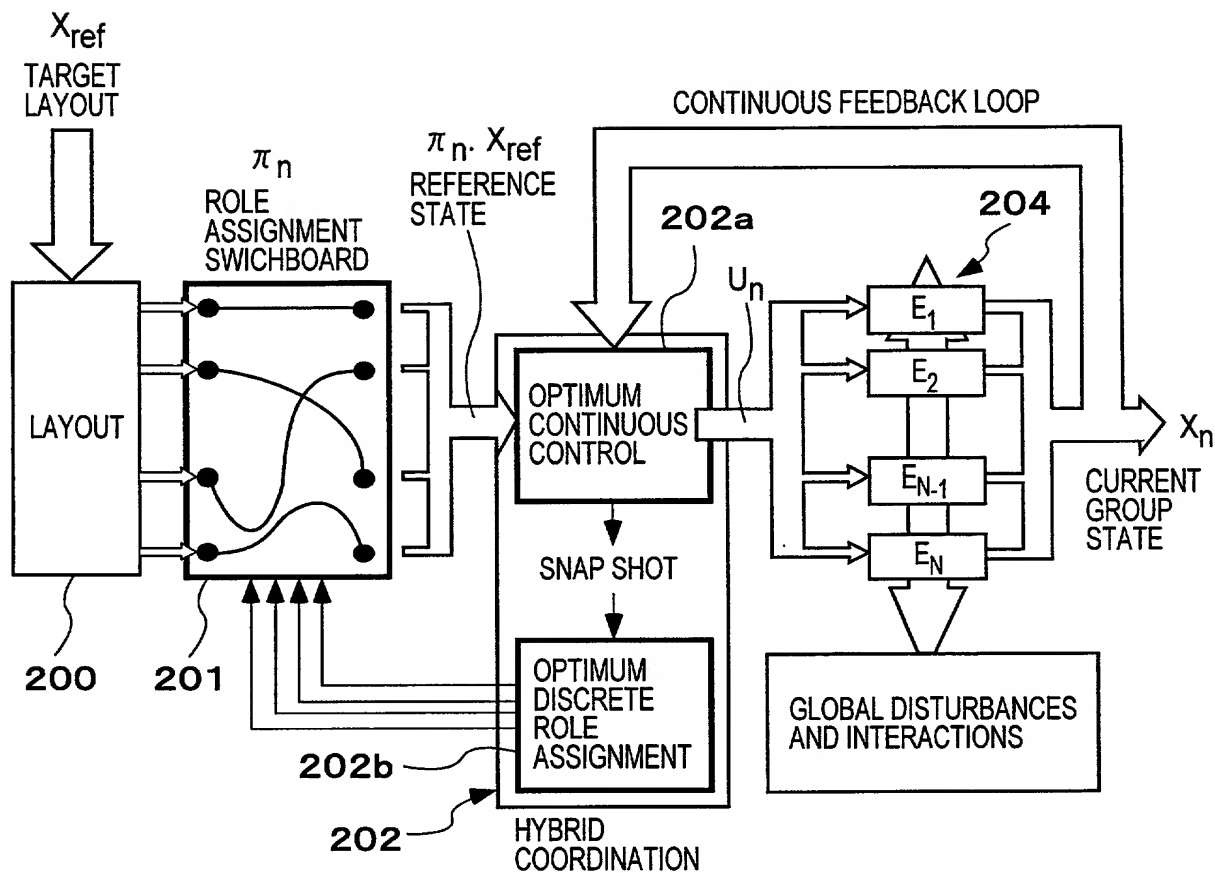
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FIG.1



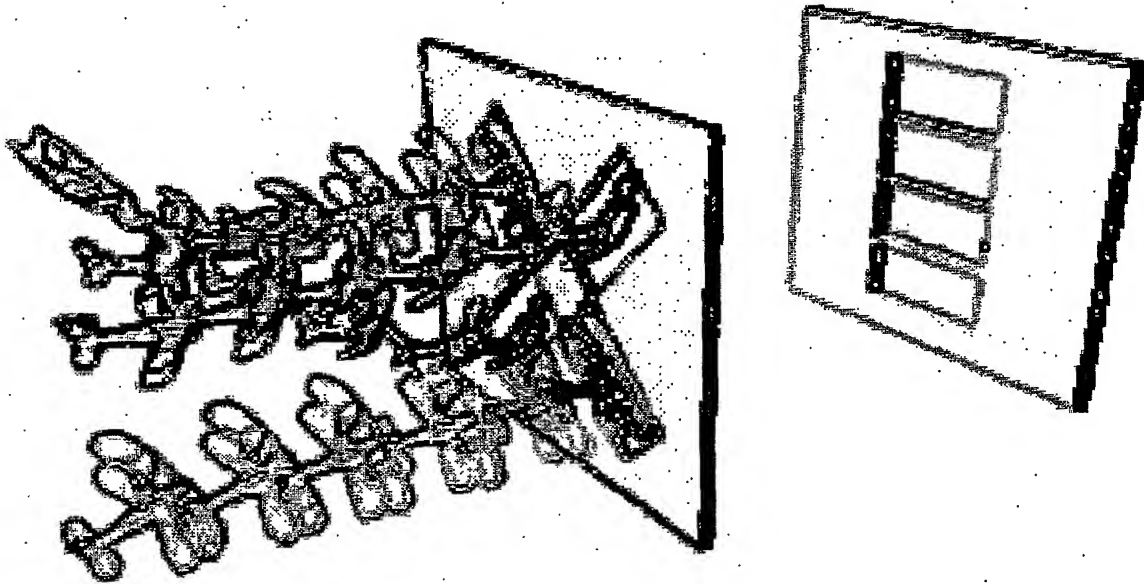
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FIG.2



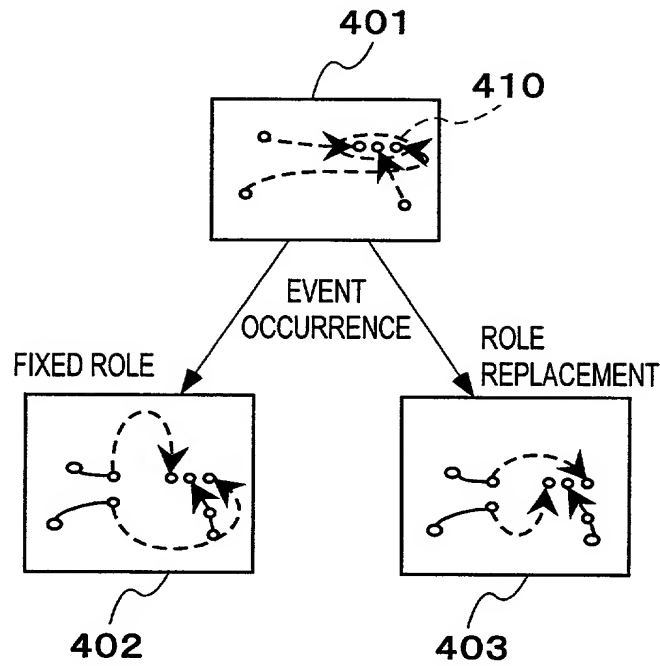
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FIG.3



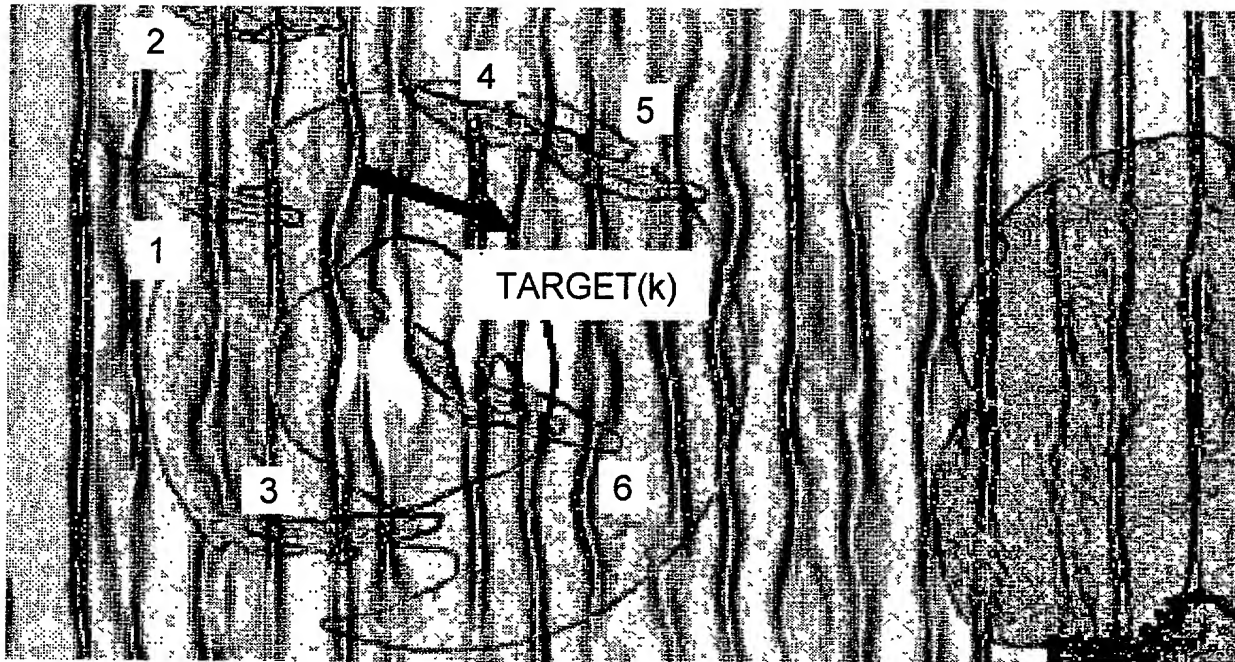
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FIG.4



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FIG.5



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FIG.6A

PERFORMANCE INDEX

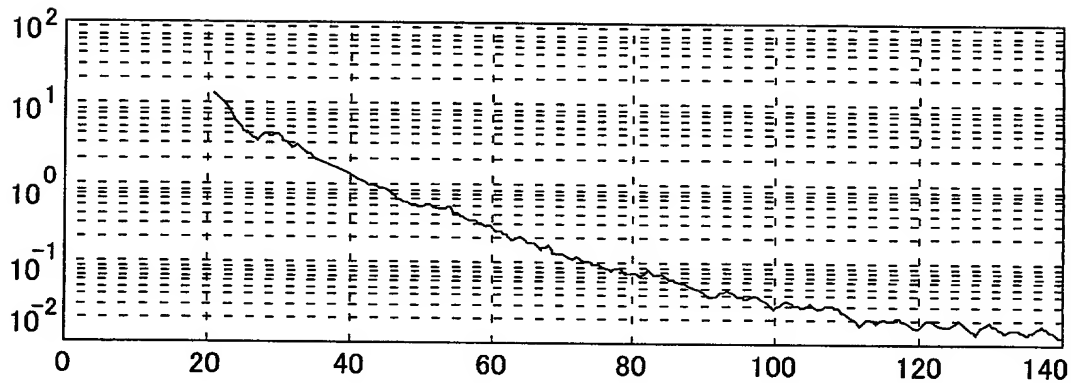
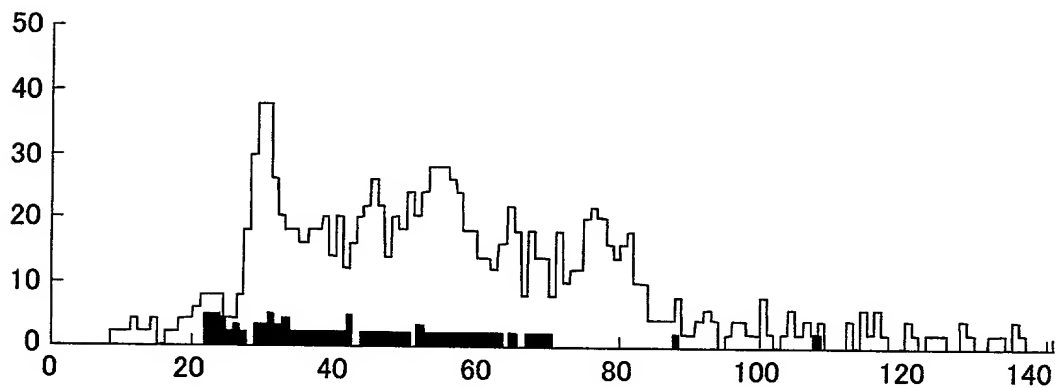


FIG.6B

NUMBER OF LOCAL INTERACTIONS



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## FIG.7

MEMBER	ALGORITHM	N	$n_e$	$Nn_e$	COORDI- NATION	TOTAL/ STEP	REAL-TIME
FISH	A2	6	6	36	8KFLOPS	16KFLOPS	YES
AIRCRAFT	A2	6	11	66	14.6KFLOPS	23KFLOPS	YES
BEE	A1	50	4	20	17MFLOPS	16.8MFLOPS	RESTRICTIVE
BEE	A1	100	4	400	67MFLOPS	68MFLOPS	NO

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FIG. 8

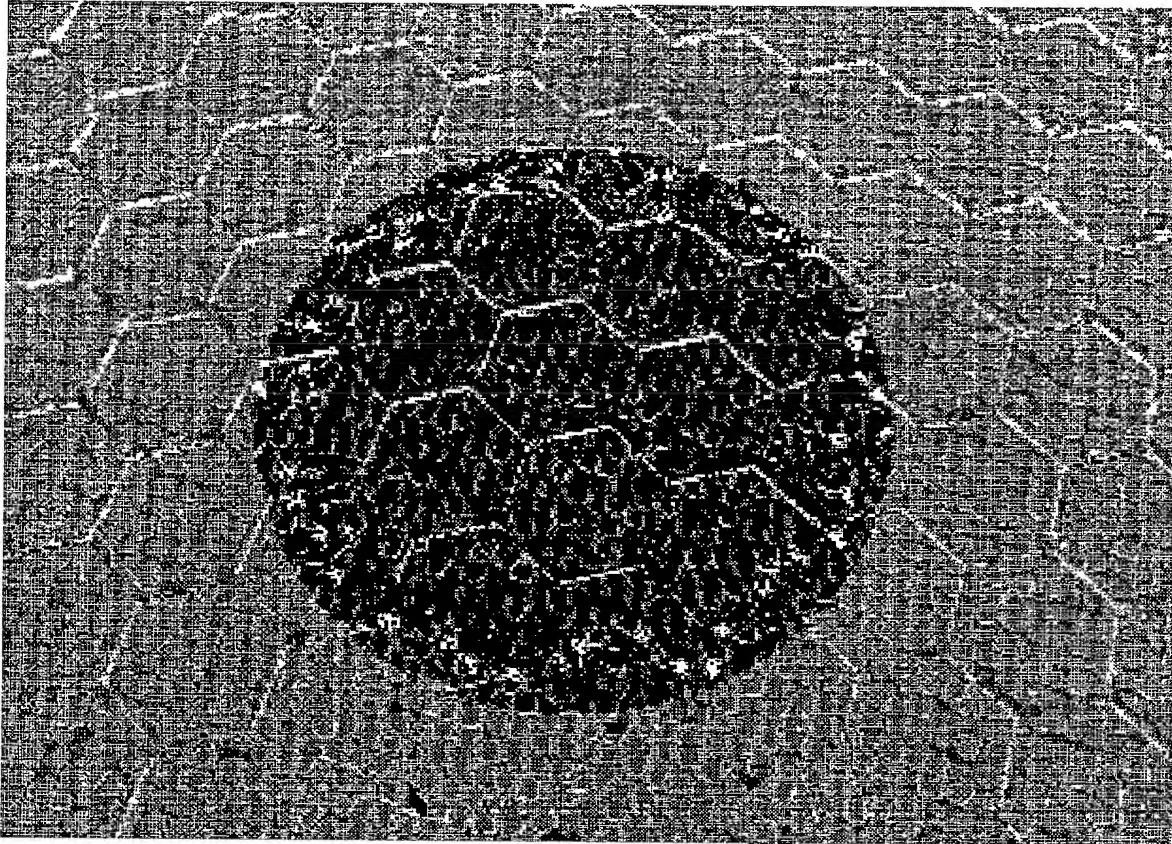
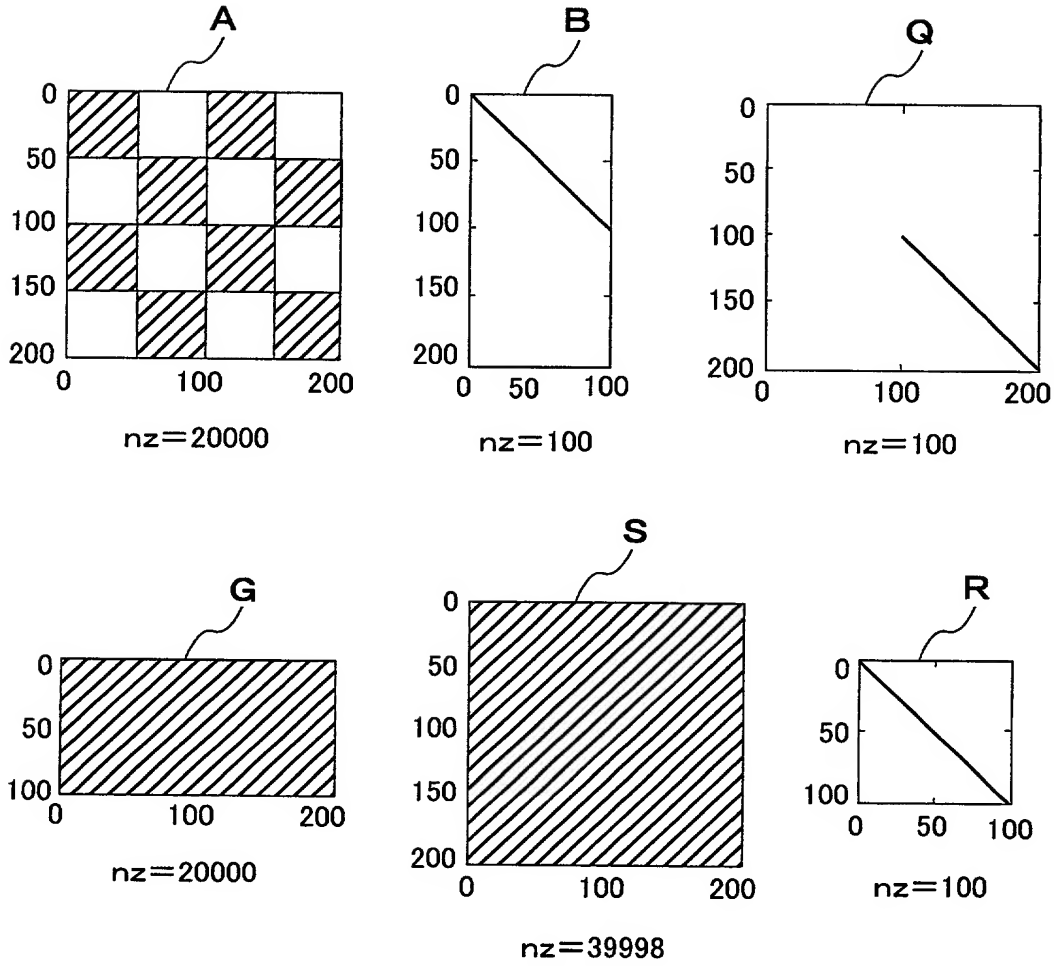


FIG. 8



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FIG.9



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FIG.10A

OPTIMAL COST (SEMILOG SCALE)

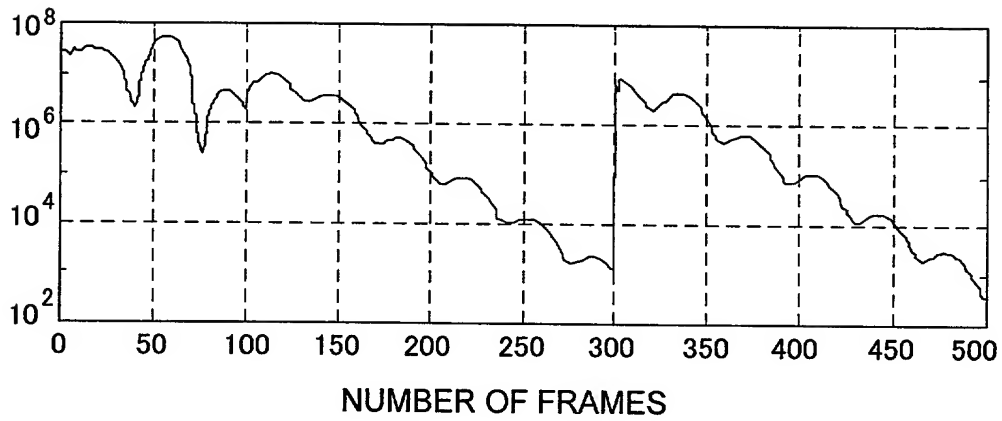


FIG.10B

ROLE ASSIGNMENTS

Plane 1	—————	—————	-----
Plane 2	-----	-----	-----
Plane 3	-----	-----	-----
Plane 4	—————	—————	—————
Plane 5	-----	-----	-----
Plane 6	-----	-----	—————

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FIG.11A

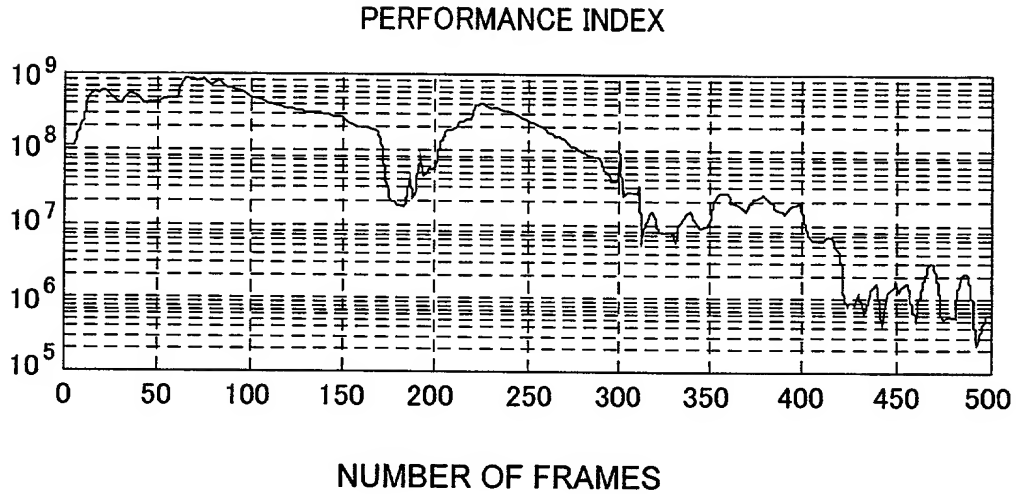
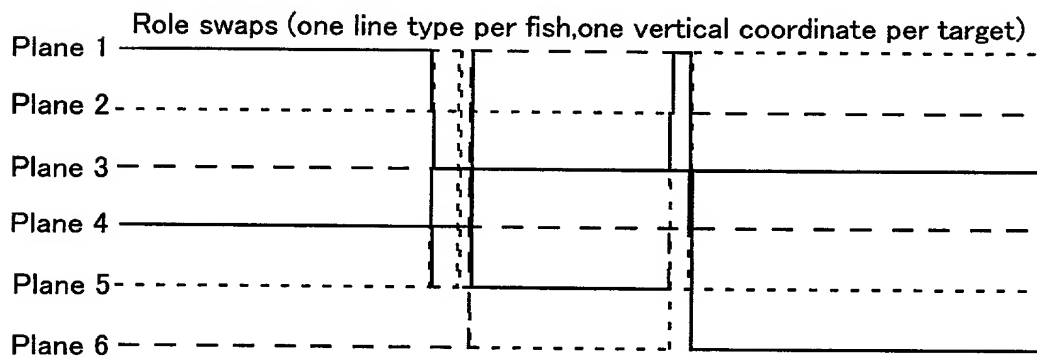
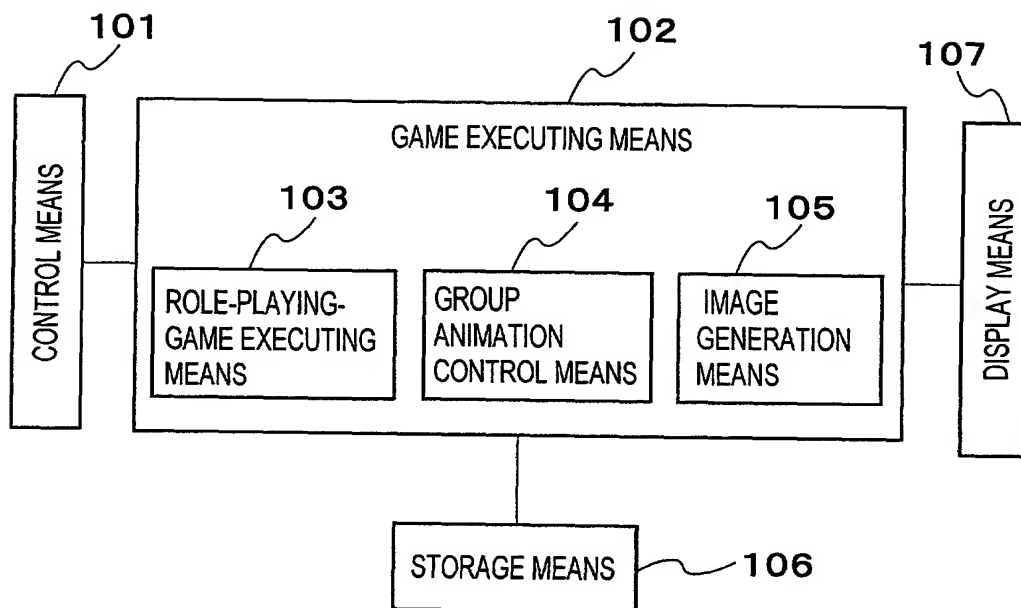


FIG.11B



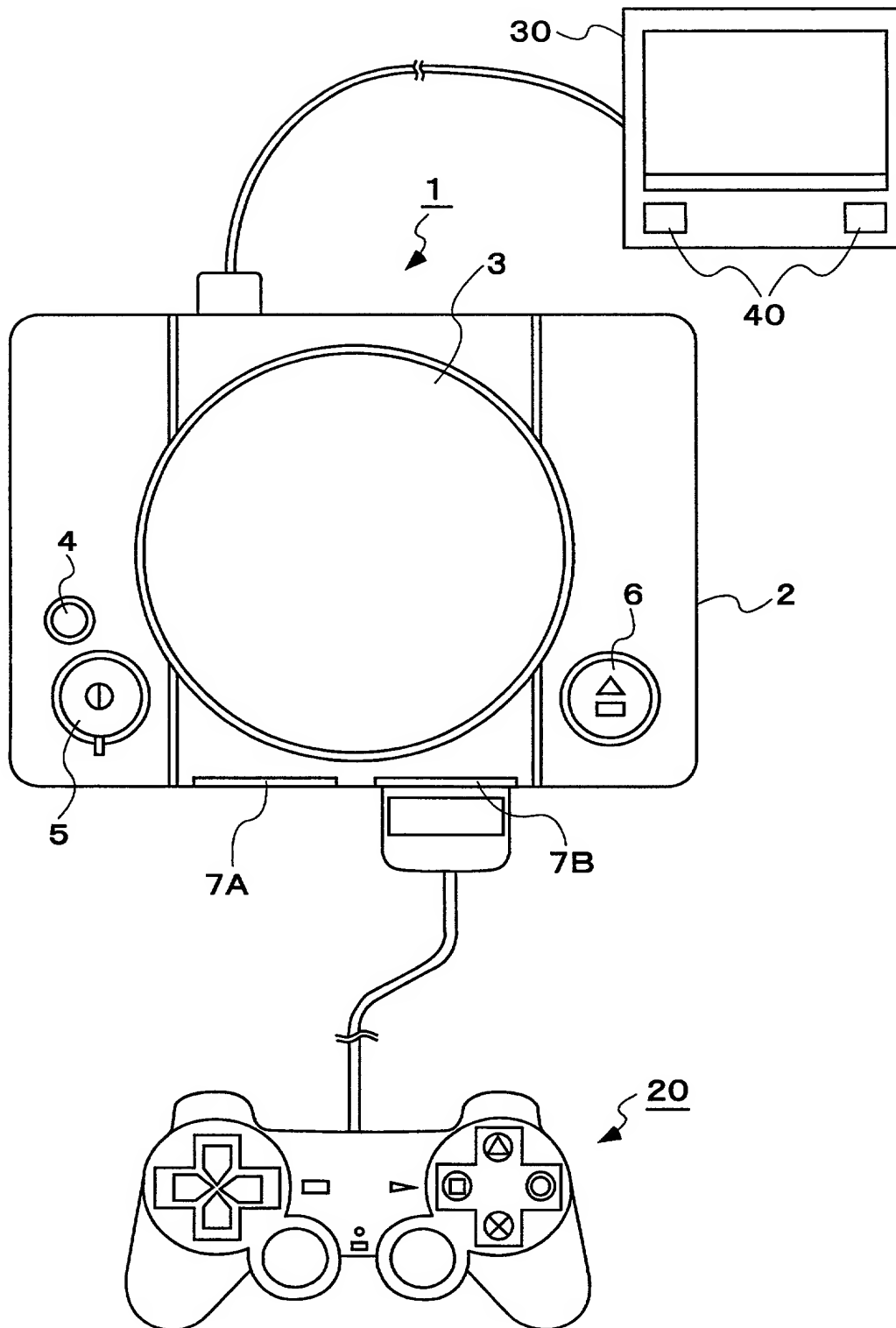
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FIG. 12



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FIG. 13



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FIG. 14

